IN THE CLAIMS

Please amend the claims as follows.

1. (Withdrawn, Currently Amended) A method of forming an inductor, comprising:

depositing a layer of magnetic material on a germanium substrate;

depositing a non-magnetic insulating layer on the magnetic material layer;

depositing a triangular open inductor pattern on the insulating layer and above the magnetic material layer, wherein the open inductor pattern is unconnected to the layer of magnetic material, and wherein depositing the triangular open inductor pattern includes depositing a first conductive pattern and depositing a second conductive pattern over the first conductive pattern and coupled to the first conductive pattern;

depositing a second non-magnetic insulating layer on the inductor pattern; and

depositing a second magnetic material layer on the second non-magnetic insulating layer and above the open inductor pattern, wherein the second magnetic material layer is between the first conductive pattern and the second conductive pattern.

2. (Withdrawn) The method of claim 1, wherein the second non-magnetic insulating layer includes parylene.

3. (Withdrawn) The method of claim 1, wherein the layer of magnetic material includes iron.

4. (Withdrawn) The method of 1, wherein the second magnetic material layer includes a NiFe alloy having about 81% Ni and 19%Fe.

5. (Withdrawn, Currently Amended) A method of forming an inductor, comprising:

depositing a layer of magnetic material on a germanium substrate;

depositing a non-magnetic insulating layer on the magnetic material layer;

forming a plurality of sandwich structures vertically stacked on the insulating layer, the structures comprising:

an open inductor pattern including a first conductive pattern and a second conductive pattern over the first conductive pattern and coupled to the first conductive pattern;

a first non-magnetic insulating layer deposited on the open inductor pattern;

a layer of magnetic material deposited on the first non-magnetic insulating layer;

a second non-magnetic insulating layer deposited on the magnetic material layer; and

a second layer of magnetic material on the second non-magnetic insulating layer, wherein the second layer of magnetic material is between the first conductive pattern and the second conductive pattern; and

forming a conductive path through the plurality of sandwich structures such that each open inductor pattern is serially connected to the inductor pattern above by the conductive path, and such that a current flowing in the serially connected inductor patterns creates a reinforcing magnetic field in the layer of magnetic material between adjacent inductor patterns.

6. (Withdrawn) The method of claim 5, wherein the layer of magnetic material includes iron.

7. (Withdrawn) The method of claim 5, wherein the non-magnetic insulating layer includes an inorganic silicon oxide film.

8. (Withdrawn) The method of claim 5, wherein the open inductor pattern includes gold.

9. (Withdrawn, Currently Amended) A method of forming an inductor, comprising:

depositing a layer of magnetic material on a silicon-on-sapphire substrate;

depositing an insulating layer on the magnetic material layer;

forming a plurality of sandwich structures vertically stacked on the insulating layer, the structures comprising:

an open inductor pattern including a first conductive pattern and a second conductive pattern over the first conductive pattern and coupled to the first conductive pattern;

an insulating layer deposited on the open inductor pattern; and

a second layer of magnetic material deposited on the insulating layer and above the open inductor pattern, wherein the second layer of magnetic material is between the first conductive pattern and the second conductive pattern;

an insulating layer deposited on the magnetic material layer; and

forming a conductive path through the plurality of sandwich structures such each of the plurality of sandwich structures connected by the conductive path, and such that a current flowing in the plurality of sandwich structures creates a reinforcing magnetic field in the layer of magnetic material between adjacent inductor patterns.

10. (Withdrawn) The method of claim 9, wherein the second non-magnetic insulating layer includes polyimide.

11. (Withdrawn) The method of claim 9, wherein the layer of magnetic material includes iron.

12. (Withdrawn) The method of claim 9, wherein the second magnetic material layer includes a NiFe alloy.

13. (Currently Amended) A method of forming an inductor, comprising:

depositing a layer of magnetic material on a substrate;

depositing a non-magnetic insulating layer on the magnetic material layer;

forming a substantially circular open inductor pattern on the non-magnetic insulating layer and above the magnetic material layer, the open inductor pattern having an outer edge, wherein the open inductor pattern is unconnected to the layer of magnetic material, and wherein forming the substantially circular open inductor pattern includes forming a first conductive pattern and forming a second conductive pattern over the first conductive pattern and coupled to the first conductive pattern;

depositing a second non-magnetic insulating layer on the open inductor pattern~~, wherein the second non-magnetic insulating layer is between the first conductive pattern and the second conductive pattern~~; and

depositing a second magnetic material layer on the second non-magnetic insulating layer, wherein the second magnetic material layer is between the first conductive pattern and the second conductive pattern.

14. (Previously Presented) The method of claim 13, wherein the substantially circular open inductor pattern includes gold.

15. (Previously Presented) The method of claim 13, wherein the substantially circular open inductor pattern includes aluminium-copper.

16. (Previously Presented) The method of claim 13, wherein the non-magnetic insulating layer includes silicon dioxide.

17. (Previously Presented) The method of claim 13, wherein the second non-magnetic insulating layer includes an organic insulator.

18. (Previously Presented) A method of forming an inductor comprising:

depositing a layer of magnetic material on a substrate;

depositing a non-magnetic insulating layer on the magnetic material layer;

forming a circular open inductor pattern on the non-magnetic insulating layer and above the magnetic material layer, the open inductor pattern having an outer edge, wherein the open inductor pattern is unconnected to the layer of magnetic material, and wherein forming the circular open inductor pattern includes forming a first conductive pattern and forming a second conductive pattern over the first conductive pattern and coupled to the first conductive pattern;

depositing a second non-magnetic insulating layer on the open inductor pattern, wherein the second non-magnetic insulating layer is between the first conductive pattern and the second conductive pattern; and

depositing a second magnetic material layer on the second non-magnetic insulating layer, wherein the second magnetic layer is between the first conductive pattern and the second conductive pattern.

19. (Previously Presented) The method of claim 18, wherein the circular open inductor pattern includes at least one of gold and aluminium-copper.

20. (Previously Presented) The method of claim 18, wherein the layer of magnetic material includes iron.

21. (Previously Presented) The method of claim 18, wherein the second non-magnetic insulating layer includes polyimide.

22. (Currently Amended) A method of forming an inductor comprising:

depositing a layer of magnetic material on a substrate;

depositing a non-magnetic insulating layer on the magnetic material layer;

forming a circular open inductor pattern on the non-magnetic insulating layer and above the magnetic material layer, the open inductor pattern having an outer edge, wherein the open inductor pattern is unconnected to the layer of magnetic material, and wherein forming the circular open inductor pattern includes forming a first conductive pattern and forming a second conductive pattern over the first conductive pattern and coupled to the first conductive pattern;

depositing a second non-magnetic insulating layer on the open inductor pattern, wherein the second non-magnetic insulating layer is between the first conductive pattern and the second conductive pattern; and

depositing a second magnetic material layer on the second non-magnetic insulating layer, the second magnetic material layer including a NiFe alloy having about 81% Ni and 19%Fe_x wherein the second magnetic material layer is between the first conductive pattern and the second conductive pattern.

23. (Currently Amended) A method of forming an inductor, comprising:

depositing a layer of magnetic material on a silicon-on-sapphire substrate;

depositing a non-magnetic insulating layer on the magnetic material layer;

forming a substantially circular open inductor pattern on the non-magnetic insulating layer and above the magnetic material layer, wherein the open inductor pattern is unconnected to the layer of magnetic material, and wherein forming the substantially circular open inductor pattern includes forming a first conductive pattern and forming a second conductive pattern over the first conductive pattern and coupled to the first conductive pattern;

depositing a second non-magnetic insulating layer on the open inductor pattern~~, wherein the second non-magnetic insulating layer is between the first conductive pattern and the second conductive pattern~~; and

depositing a second magnetic material layer on the second non-magnetic insulating layer, wherein the second magnetic material layer is between the first conductive pattern and the second conductive pattern.

24. (Original) The method of claim 23, wherein the second non-magnetic insulating layer comprises parylene.

25. (Previously Presented) The method of claim 23, wherein the layer of magnetic material includes iron.

26. (Currently Amended) A method of forming an inductor, comprising:

depositing a layer of magnetic material on a silicon-on-sapphire substrate;

depositing a non-magnetic insulating layer on the magnetic material layer;

forming a substantially circular open inductor pattern on the non-magnetic insulating layer and above the magnetic material layer, wherein the open inductor pattern is unconnected to the layer of magnetic material, and wherein forming the substantially circular open inductor pattern includes forming a first conductive pattern and forming a second conductive pattern over the first conductive pattern and coupled to the first conductive pattern;

depositing a second non-magnetic insulating layer on the open inductor pattern~~, wherein the second non-magnetic insulating layer is between the first conductive pattern and the second conductive pattern~~; and

depositing a second magnetic material layer on the second non-magnetic insulating layer, the second magnetic material layer including a NiFe alloy having about 81% Ni and 19%Fe, wherein the second magnetic material layer is between the first conductive pattern and the second conductive pattern.

27. (Currently Amended) A method of forming an inductor, comprising:

depositing a layer of magnetic material on a gallium arsenide substrate;

depositing a non-magnetic insulating layer on the magnetic material layer;

forming a substantially circular open inductor pattern on the non-magnetic insulating layer and above the magnetic material layer, wherein the open inductor pattern is unconnected to the layer of magnetic material, and wherein forming the substantially circular open inductor pattern includes forming a first conductive pattern and forming a second conductive pattern over the first conductive pattern and coupled to the first conductive pattern;

depositing a second non-magnetic insulating layer on the open inductor pattern~~, wherein the second non-magnetic insulating layer is between the first conductive pattern and the second conductive pattern~~; and

depositing a second magnetic material layer on the second non-magnetic insulating layer, wherein the second magnetic material layer is between the first conductive pattern and the second conductive pattern.

28. (Previously Presented) The method of claim 27, wherein the layer of magnetic material includes iron.

29. (Previously Presented) The method of claim 27, wherein the non-magnetic insulating layer includes inorganic silicon oxide film.

30. (Previously Presented) The method of claim 27, wherein the second non-magnetic insulating layer includes polyimide.

31. (Withdrawn, Currently Amended) A method of forming an inductor, comprising:

depositing a layer of magnetic material on a substrate;

depositing a non-magnetic insulating layer on the magnetic material layer;

forming a plurality of sandwich structures vertically stacked on the insulating layer, the structures comprising:

a substantially circular open inductor pattern having an outer edge, a first conductive pattern and a second conductive pattern over the first conductive pattern and coupled to the first conductive pattern;

a first non-magnetic insulating layer deposited on the open inductor pattern;

a layer of magnetic material deposited on the first non-magnetic insulating layer;

a second non-magnetic insulating layer deposited on the magnetic material layer; and

a second layer of magnetic material on the second non-magnetic insulating layer, wherein the second layer of magnetic material is between the first conductive pattern and the second conductive pattern; and

forming conductive path through the plurality of sandwich structures such that each open inductor pattern is serially connected to the inductor pattern above by the conductive path, and such that a current flowing in the serially connected inductor patterns creates a reinforcing magnetic field in the layer of magnetic material between adjacent inductor patterns.

32. (Withdrawn) The method of claim 31, wherein the layer of magnetic material includes a high permeability ferromagnetic material.

33. (Withdrawn) The method of claim 31, wherein the open inductor pattern includes a high conductivity material.

34. (Currently Amended) A method of forming an inductor, comprising:

depositing a magnetic material layer on a substrate;

depositing a non-magnetic insulating layer on the magnetic material layer;

depositing an open inductor pattern on the non-magnetic insulating layer and above the magnetic material layer, wherein the open inductor pattern is unconnected to the magnetic material layer, and wherein depositing the open inductor pattern includes depositing a first conductive pattern and depositing a second conductive pattern over the first conductive pattern and coupled to the first conductive pattern;

depositing a second non-magnetic insulating layer on the open inductor pattern~~, wherein the second non-magnetic insulating layer is between the first conductive pattern and the second conductive pattern~~; and

depositing a second magnetic material layer on the second non-magnetic insulating layer, wherein the second magnetic material layer is between the first conductive pattern and the second conductive pattern.

35. (Previously Presented) The method of claim 22, wherein the open inductor pattern includes iron.

36. (Previously Presented) The method of claim 22, wherein the non-magnetic insulating layer includes silicon dioxide.

37. (Previously Presented) The method of claim 26, wherein the open inductor pattern includes iron.

38. (Previously Presented) The method of claim 26, wherein the non-magnetic insulating layer includes organic material.

39. (Currently Amended) A method of forming an inductor, comprising:

forming a magnetic material layer on a substrate;

forming a non-magnetic insulating layer on the magnetic material layer;

forming an open inductor pattern on the non-magnetic insulating layer and above the magnetic material layer, wherein forming the open inductor pattern includes forming a first conductive pattern and forming a second conductive pattern over the first conductive pattern and coupled to the first conductive pattern;

forming a second non-magnetic insulating layer on the open inductor pattern~~, wherein the second non-magnetic insulating layer is between the first conductive pattern and the second conductive pattern~~; and

forming a second magnetic material layer on the second non-magnetic insulating layer, wherein the second layer of magnetic material is between the first conductive pattern and the second conductive pattern.

40. (Previously Presented) The method of claim 39, wherein forming the open inductor pattern further includes forming a third conductive pattern over the second conductive pattern and coupled to the second conductive pattern.

41. (Previously Presented) The method of claim 13, wherein the second non-magnetic insulating layer directly contacts the non-magnetic insulating layer.

42. (Previously Presented) The method of claim 13, wherein at least a portion of the first conductive pattern is embedded in the second non-magnetic insulating layer.

43. (Previously Presented) The method of claim 18, wherein the second non-magnetic insulating layer directly contacts the non-magnetic insulating layer.

44. (Previously Presented) The method of claim 18, wherein at least a portion of the first conductive pattern is embedded in the second non-magnetic insulating layer.

45. (Previously Presented) The method of claim 39, wherein the second non-magnetic insulating layer directly contacts the non-magnetic insulating layer.

46. (Previously Presented) The method of claim 39, wherein at least a portion of the first conductive pattern is embedded in the second non-magnetic insulating layer.

47. (Previously Presented) A method of forming an inductor, comprising:

depositing a first magnetic material layer on a substrate;

depositing a first non-magnetic insulating layer on the magnetic material layer;

depositing an open inductor pattern on the first non-magnetic insulating layer, wherein depositing the open inductor pattern includes depositing a first conductive pattern and depositing a second conductive pattern over the first conductive pattern and coupled to the first conductive pattern;

depositing a second non-magnetic insulating layer on the open inductor pattern, wherein the second non-magnetic insulating layer directly contacts the first non-magnetic insulating layer; and

depositing a second magnetic material layer on the second non-magnetic insulating layer.

48. (Previously Presented) The method of claim 47, wherein the second non-magnetic insulating layer is between the first conductive pattern and the second conductive pattern.

49. (Currently Amended) A method of forming an inductor, comprising:

depositing a first magnetic material layer on a substrate;

depositing a first non-magnetic insulating layer on the magnetic material layer;

depositing an open inductor pattern on the first non-magnetic insulating layer, wherein depositing the open inductor pattern includes depositing a first conductive pattern and depositing a second conductive pattern over the first conductive pattern and coupled to the first conductive pattern;

depositing a second non-magnetic insulating layer on the open inductor pattern, wherein the second non-magnetic insulating layer directly contacts the first non-magnetic insulating layer; and

depositing a second magnetic material layer on the second non-magnetic insulating layer ~~The method of claim 48~~, wherein the second magnetic material layer is between the first conductive pattern and the second conductive pattern.

50. (Previously Presented) The method of claim 49, wherein at least a portion of the first conductive pattern is embedded in the second non-magnetic insulating layer.